

Abstract

A contact activated vacuum assisted suction cup assembly comprising: 1) a cylindrical bellowed or corrugated cup defining a plurality of interconnected bellows or corrugations of alternating, coaxial large and small diameter areas, hereinafter “bellows”, and having; A) an open contact end; and B) a valve end including a valve seat; 2) a valve stem having first and second extremities; 3) a valve plate intermediate the open contact end and the valve end in one of the large diameter areas attached to the first extremity; and 4) a valve stop attached to the valve stem at the second extremity that can engage the valve seat in the closed position. A picking device comprising a vacuum plenum having a plurality of the previously described contact activated vacuum assisted suction cup assemblies mounted therein in plenum apertures that engage a peripheral flange about the valve end is also described.

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